

WHAT IS CLAIMED IS:

1. A composite vehicle wheel hub comprising:
an inner wheel hub portion formed from a first material; and
5 an outer wheel hub portion formed from a second material and joined to
said inner wheel hub portion.

2. The composite vehicle wheel hub according to Claim 1 wherein
said inner wheel hub portion is formed from a non-cast material and said outer
10 wheel hub portion is formed from a cast material.

3. The composite vehicle wheel hub according to Claim 2 wherein
said inner wheel hub portion is provided with a plurality of lugs which are
embedded in said outer wheel hub portion during the casting process.

- 15 4. The composite vehicle wheel hub according to Claim 2 wherein
said outer wheel hub portion is formed from cast iron.

5. The composite vehicle wheel hub according to Claim 2 wherein
20 said inner wheel hub portion is formed from steel.

6. The composite vehicle wheel hub according to Claim 1 wherein
said inner wheel hub portion and said outer wheel hub portion are joined together
by at least one of a mechanical connection and a metallurgical connection.

7. The composite vehicle wheel hub according to Claim 1 wherein
said outer wheel hub portion is formed from cast iron and includes a generally
stepped body having an opened inboard end, an opened outboard end, and a
generally axially extending main body, said main body provided with a radially
5 outwardly extending flange.

8. The composite vehicle wheel hub according to Claim 1 wherein
said inner wheel hub portion is formed from steel and includes an opened
inboard end, and opened outboard end, and a generally axially extending main
10 body, said outboard end provided with a plurality of lugs spaced
circumferentially therearound.

9. The composite vehicle wheel hub according to Claim 8 wherein
said opened inboard end includes a center flange.

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10. The composite vehicle wheel hub according to Claim 1 wherein
said outer wheel hub portion is formed from cast iron and includes a generally
stepped body having an opened inboard end, an opened outboard end, and a
generally axially extending main body, said main body of said outer wheel hub
20 portion provided with a radially outwardly extending flange, and wherein said
inner wheel hub portion is formed from steel and includes an opened inboard
end, and opened outboard end, and a generally axially extending main body, said
outboard end of said inner wheel hub portion provided with a plurality of lugs
spaced circumferentially therearound which are embedded in said outer wheel
25 hub portion during the casting process.

11. The composite vehicle wheel hub according to Claim 1 further including a bearing assembly supported on at least a portion of said outer wheel hub portion.

5 12. The composite vehicle wheel hub according to Claim 1 further including a bearing assembly supported on at least a portion of said inner wheel hub portion.

10 13. The composite vehicle wheel hub according to Claim 1 further including a bearing assembly supported on at least a portion of both of said outer wheel hub portion and said inner wheel hub portion.

15 14. The composite vehicle wheel hub according to Claim 1 wherein said inner wheel hub portion is formed from a cast material and said outer wheel hub portion is formed from a non-cast material.

15. The composite vehicle wheel hub according to Claim 14 wherein said outer wheel hub portion is provided with a plurality of lugs which are embedded in said inner wheel hub portion during the casting process.

20 16. The composite vehicle wheel hub according to Claim 14 wherein said inner wheel hub portion is formed from cast iron.

17. The composite vehicle wheel hub according to Claim 14 wherein said outer wheel hub portion is formed from steel.

18. The composite vehicle wheel hub according to Claim 1 wherein
5 said inner wheel hub portion is formed from a first cast material and said outer wheel hub portion is formed from a second cast material.

19. A composite vehicle wheel hub comprising: ✓
a non-cast inner wheel hub portion having an opened inboard end, and
10 opened outboard end, and a generally axially extending main body, said outboard end of said inner wheel hub portion provided with a plurality of lugs spaced circumferentially therearound; and

15 a cast outer wheel hub portion joined to said inner wheel hub portion and having a generally stepped body having an opened inboard end, an opened outboard end, and a generally axially extending main body, said main body of said outer wheel hub portion provided with a radially outwardly extending flange;

20 wherein said lugs of said non-cast inner wheel hub portion are embedded in said cast outer wheel hub portion during the casting process to assist in securing said non-cast inner wheel hub portion and said cast outer wheel hub portion together.

25 20. The composite vehicle wheel hub according to Claim 19 wherein said inner wheel hub portion is formed from steel and said outer wheel hub portion is formed from cast iron.

21. The composite vehicle wheel hub according to Claim 19 wherein said opened inboard end of said inner wheel hub portion includes a center flange.

22. A method for producing a composite vehicle wheel hub comprising
5 the steps of:

(a) providing one of an inner wheel hub portion and an outer wheel hub portion formed from a first material;

(b) placing the one of the inner wheel hub portion and the outer wheel hub portion in a mold;

10 (c) casting the other one of the inner wheel hub portion and the outer wheel hub portion formed from a second material in situ within the mold to thereby produce the composite vehicle wheel hub; and

(d) removing the composite vehicle wheel hub from the mold.

15 23. The method for producing a composite vehicle wheel hub according to Claim 22 wherein the one of the inner wheel hub portion and the outer wheel hub portion of step (a) is provided with a plurality of lugs which are embedded in the outer wheel hub portion during step (c).

20 24. The method for producing a composite vehicle wheel hub according to Claim 22 wherein the inner wheel hub portion is provided in steps (a) and (b) and is formed from steel and the outer wheel hub portion cast in step (c) is formed from cast iron.

25. The method for producing a composite vehicle wheel hub according to Claim 24 wherein the cast iron outer wheel hub portion includes a generally stepped body having an opened inboard end, an opened outboard end, and a generally axially extending main body, the main body provided with a 5 radially outwardly extending flange.

26. The method for producing a composite vehicle wheel hub according to Claim 24 wherein the steel inner wheel hub portion includes an opened inboard end, and opened outboard end, and a generally axially extending 10 main body, the outboard end provided with a plurality of lugs spaced circumferentially therearound.

27. The method for producing a composite vehicle wheel hub according to Claim 24 wherein the cast iron outer wheel hub portion includes a 15 generally stepped body having an opened inboard end, an opened outboard end, and a generally axially extending main body, the main body of the outer wheel hub portion provided with a radially outwardly extending flange, and wherein the steel inner wheel hub portion includes an opened inboard end, and opened outboard end, and a generally axially extending main body, the outboard end of 20 the inner wheel hub portion provided with a plurality of lugs spaced circumferentially therearound which are embedded in the outer wheel hub portion during the casting process.

28. The method for producing a composite vehicle wheel hub according to Claim 22 wherein the inner wheel hub portion is provided in steps (a) and (b) and is formed from cast iron and the outer wheel hub portion cast in step (c) is formed from cast iron.

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29. The method for producing a composite vehicle wheel hub according to Claim 22 wherein the outer wheel hub portion is provided in steps (a) and (b) and is formed from steel and the inner wheel hub portion cast in step (c) is formed from cast iron.

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30. The method for producing a composite vehicle wheel hub according to Claim 22 wherein the outer wheel hub portion is provided in steps (a) and (b) and is formed from cast iron and the inner wheel hub portion cast in step (c) is formed from cast iron.

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